Introduction to the Minitrack Human-Computer Interaction in the Digital Economy

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As the importance of Human-Computer Interaction (HCI) continues to grow we have witnessed new and exciting avenues for exploration. In 2006, the HCI minitrack was launched to provide an outlet for a variety of HCI research streams from a variety of disciplines. In 2013, we began including the disciplines neuroscience and design science. With the ever-increasing role of information systems in all aspects of society, we moved the minitrack to the *Internet and Digital Economy* track in 2019, with the focus on the role of *Human-Computer Interaction in the Digital Economy*. Whereas traditional desktop computers continue to be important and widely used information systems—especially in organizational and home office settings—the scope of HCI research has broadened considerably, with a proliferation of devices, contexts, and form factors. Just as mobile devices—such as smartphones and tablets—enable new forms of interaction while constraining others, so do wearable devices, such as smart watches and fitness trackers. In their homes, people are increasingly interacting with IoT-enabled home automation devices. Likewise, automobiles have evolved from a simple means of transportation toward becoming connected vehicles, using and providing data ranging from entertainment to navigation to vehicle-to-vehicle communications; these new trends—and others—contribute to the continued need for theory-based HCI research in a variety of contexts and domains. Our aim is to get a truly cross-disciplinary understanding of HCI that informs contemporary research and impacts design practices.

The papers selected for the competitive HCI minitrack draw on this rich cross-disciplinary tradition. Given that HCI continues to grow and change, we aim to provide a forum for the exchange of novel thoughts and ideas. We believe that the four papers presented in this minitrack will provide interesting and thought-provoking discussions that will be relevant for both research and practitioners.

The accepted papers provide a cross-section of HCI and interface design issues in general contexts, as well as in emerging contexts, such as mobile and automotive information systems.

In the first paper, "Mapping Beyond the Uncanny Valley: A Delphi Study on Aiding Adoption of Realistic Digital Faces," Michael Seymour, Kai Riemer, and Judy Kay aim to understand the challenges of creating visually realistic digital agents. Given the proliferation of digital avatars and the influence of emotion on user behaviors, gaining insights into what is required for the effective implementation of digital avatars becomes increasingly important.

In the second paper, "Towards Understanding the Influence of Nature Imagery in User Interface Design: A Review of the Literature," Ashlea Rendell, Marc Adam, and Ami Eidels highlight the influence of visual interface design elements such as nature imagery on cognition, affect, and behavior. Based on a review of the extant literature, the authors propose a theoretical framework highlighting the influence of nature imagery on image perception (in terms of biophilia and perceived aesthetics), cognitive and affective responses, and behavioral outcome variables.

In the third paper, titled "Investigating the User Experience of Smartphone Authentication Schemes - The Role of the Mobile Context," Matthias Baldauf, Sebastian Steiner, Mohamed Khamis, and Sarah-Kristin Thiel examine smartphone authentication mechanisms from a user perspective, taking into consideration two important aspects of the user's context—moving vs. stationary and public vs. private.

In the final paper, "Design Guidelines for Creating a Convincing User Experience with Virtual In-vehicle Assistants," Timo Strohmann, Laura Höper, and Susanne Robra-Bissantz address the increasingly important context of automotive information systems. Using a design science approach, the authors develop a set of guidelines for creating virtual in-vehicle assistants that maximize user experience.

We would like to sincerely thank the researchers who contributed to this minitrack. Also, we would like to express our thanks for the outstanding efforts put forth by the many reviewers who helped ensure that the papers presented in this minitrack are both interesting and relevant to the HCI field.